



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION 10**  
1200 Sixth Avenue  
Seattle, WA 98101

11 January 2002

**MEMORANDUM**

**SUBJECT:** McCormick & Baxter Superfund Site, Portland OR – The need for EPA to reconsider the project path and remediation decisions to date

**FROM:** René Fuentes, Hydrogeologist  
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**TO:** Al Goodman, Project Manager  
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This is the final version of the draft comments dated 14 December 2001, which raised many issues and concerns at EPA. I have revised and edited the memo to clarify statements and to make it more readable, and also to document that since that time there has been an EPA meeting on the topic of this site. Other than that the memo has basically the same concerns that I had raised in the draft memo.

**Background**

Over the life of this project and my interactions with it, which started on or about 1994, I have attempted to have the issues of logic and science included into the processes of site characterization, definition of sampling needs, development of a conceptual model which covers both the uplands and the adjacent Willamette River (surface water and sediments), and selection/implementation of remedial action optimally protective of the environment. In spite of my persistence, on the face of the opposition presented by several site managers for both EPA and the Oregon Department of Environmental Quality, I have continued, on and off, to be part of the project group. However, as the decision point to selecting a remedy gets closer, I continue to feel that we have had a long series of unresolved problems and compromises which have forced the project into an illogical path, and feel that a clear description of all the issues and problems which have affected this site has not been developed for the record. This memo is my attempt to outline what I have seen as problems leading us to these potentially troublesome decisions for remedial alternative selection for the upland source and the adjacent sediments.

I have a number of memos and other electronic messages dating from 1994 to date which document in more detail many of my concerns on specific documents over a period of years. Many of the issues raised in this memo have been discussed in project meetings but not documented in reports or meeting summaries. There have also been e-mails raising issues which are not routinely kept as part of project records. I want to highlight the

fact that the issues here are related to the protection of the Willamette River environment as it relates to the site within Portland Harbor, and are not related to potential drinking water concerns at the upland site. The issues are related to discharges from the site to (and from) the adjacent, already contaminated sediments. These contaminants exist as contaminated sediments, NAPLs (non-aqueous phase liquids), and dissolved constituents. Also, these comments are not meant to detract in any way from all the positive environmental remediation work that has been done in the uplands with the soil remediation efforts and the dismantling of the facility buildings, tanks, and other equipment.

### **Major Decision Documents Issues**

The first major problems occurred with the Remedial Investigation which was done by PTI and which had many problems in the site characterization stage (what is the contamination, over what areal distribution, to what depth, etc.). Some of these problems were due to the limited data obtained, or the location, and some to the way the report was written and the data interpreted. Many of these problems were raised by me and others back when PTI was still working on the Feasibility Study, but few were addressed in a satisfactory manner in the RI process. This led to a limited and problematic Feasibility Study which then led to a Record of Decision (ROD) which defined contamination levels under a very artificial and unrealistic system (using site-defined Alternate Concentration Limits, 1996 ROD, Page 49) which were very high concentration values even at that time, and probably would appear worse now with all the new ecological risk assessment developments since 1996. That ROD basically allowed any possible concentration of ground water contamination to leave the site and be acceptable within the ACL “allowed limits”. This led the entire ground water plume remediation effort, over the last few years, to be based on ground water extraction and treatment to control NAPL only, which translated into a very limited areal extent and very low pumping rates (some average rates calculated from the Progress Reports are: approximately, 2 gpm in 1997, 0.14 gpm in 1998 and 0.35 gpm in 1999). While this NAPL extraction had the environmental benefit of extracting hundreds of gallons of NAPL, the limited NAPL pumping rates have allowed the continued discharge of contaminated water and NAPL into the Willamette River. That limited attempt at controlling the NAPL finally led to a decision that the minimal pump and treat system would not work for a remedial solution, and that a more substantial remedial action (such as a barrier wall) would need to be installed to prevent the continued migration of NAPL to the river. However, even that decision has been limited in scope as it has been developed from a concept to contain the contamination into a pre-design set of alignments, where the alignments leave high concentration of contaminants outside the proposed barrier walls.

As a short summary of the site contaminants it should be noted that ground water has concentrations of PAHs documented in the RI (Table J-1) which have values of 92,000 µg/L LPAH and 12,000 µg/L HPAH near the shoreline at MW-29. This is not an isolated high concentration value, but a rather common range, and it is easily viewed in the RI Figure 5-22 which shows that LPAH concentrations in ground water near the shore are very high in a number of areas which would be outside the presently proposed wall. On the subject of contaminated sediments, there have been many samples taken, but it is not clear how average area values are derived (especially in deeper samples) when specific sample locations are checked. Some of the boring samples (mostly the sediment ones) have visual logging, while others have visual logging and laboratory analysis of the contaminants. Many surface sediment samples were

taken, but somehow the interpretation of where the worst contamination at depth occurs is lost after several iterations of reports. The worst area according to the RI interpretations, based on all the samples, seems to be near the creosote tank, and south of the dock, where the contamination to depth is estimated to be the worst (RI, Figure 5-29). As in the case of ground water, this area will also be outside of the proposed barrier wall. These areas would be capped, and it is unclear whether high NAPL concentrations would re-contaminate the cap.

### **Present Proposal for Remedial Actions Issues**

After the meeting with ODEQ and USACE, on 11 December 2001, there seemed to be an urgency to get the design and contracting process for the barrier wall under way, and there is a carefully prepared schedule which covers the work until the wall is completed. However, it seems that the level of detail and logic which has gone into that schedule is much more than what has gone into the environmental protectiveness decisions for the wall placement and the sediment cap. As it stands now, there is a plan to have a wall which is mostly upland, does not have a base in the northern end of the site, does not enclose the entire problem area where there is NAPL due to many construction problems (railroad, bridge, and buried pressured sewer lines), and does not capture dissolved ground water contaminant plumes. In addition, there is a major concern about staying in the uplands to avoid permitting issues, which in turn leaves a major portion of the documented contaminated sediments and NAPL source outside of the wall alignment. It is this urgency on getting many legal and contractual mechanisms in place, prior to full and open debate of the proposed wall plan, that has concerned me.

The proposed sediment cap has a high probability of re-contamination from the underside, both from the highly contaminated sediments and contaminated ground water flowing under it, and potentially also from the top, from uncontrolled surface and subsurface contamination from the site and the area around the railroad bridge. The issue of the lack of a “combined design of the wall and the cap” is that the work has been done and reviewed by many different groups, more or less independently of each other (including E&E as the main consultants, ODEQ, EPA uplands group, EPA sediment group, and more recently USACE), and it is hard to see how the entire remedial action will work as a unit from my position at EPA. However, having worked at other sites, where similar patterns of design have been done, it seems critical to have the entire remedial project be considered a single project, where all the sections should fit into a logical framework which can be reviewed by all the team members.

It has been a problem bringing the issue of dissolved contamination and NAPL to bear on the decisions. Each time those issues come up the counter-argument is that the ROD does not require those to be controlled. If there are sinking NAPL (DNAPL) which would go under the wall, it is considered acceptable to let it go to depth with the argument that it would not reappear later. However, there is no solid scientific data which supports that logic presented in any of the documents used for decisions. If there is NAPL documented along the shoreline the argument in some areas is that it is immobile, which is again not a convincing argument and not based on much other than some visual checks and statements at meetings. Note that there is, at best, only limited sediment data beyond the surface samples, and therefore it is hard to determine what is

mobile or not. Based on the borings done for the upland wall alignment it is clear that there is a large area (over 200 feet wide zone) with NAPL which will be left outside of the wall (borings BW-7, BW-8, BW-9, and BW-10) and for which there is no basis to state that it has not been mobile up to now. Furthermore, the entire area from those borings to the shore could be a large zone of contamination with NAPL below the surface sediments. In addition to that NAPL there is documentation that there was a “naphthalene block” buried along the shoreline of the facility in that area (note that these are common process by-products in wood treating facilities and can be quite large and present a long-term source), and that would also be outside the proposed barrier wall. It is unclear to date if, or how much, of that source has been removed.

### **Problems Perceived**

The present process of having the site be an NPL site with EPA as the lead, but with the project being carried out by the State of Oregon does not seem very workable since it is very hard for EPA to get sufficient personnel of the right type, at the right time, to assure that decisions logical to all the key parties are incorporated into the project documents. However, it may not be the personnel as much as the rules which have been set for the remedial work that are a problem, and if some of the changes proposed below are carried out, it may be that this entire process would improve due to having more realistic environmental protection goals which the State (ODEQ) could work towards. As presently organized, the ODEQ seems very concerned with avoiding “permit problems”, incremental costs, and more delays on getting a design and contracting effort started; but not overly concerned with the environmental risks now posed by the contamination sources at the site, or how these will re-contaminate the river in the future. It is unclear how all the costs of re-doing poorly planned remedial work would be accounted, or whether they have been accounted in the decisions to this point. It is also unclear how the “environmental costs” of any major decision are balanced with the project costs.

Finally, if the issues had been presented to the rest of the necessary agencies, Tribes, and even EPA personnel in a coherent manner, and allowed to have a proper level of open formal program review, then the present rush to build a remedial action acceptable to “everyone” could be acceptable. However, in spite of my requests in the EPA / ODEQ meetings to include other agencies prior to making the decisions that has not occurred. Now I am afraid that the rush to get plans, designs, and contract documents out would further limit EPA’s practical ability to influence changes in barrier wall alignment or type of cap designs. It is this sudden rush, prior to open public discussion, which has encouraged me to prepare this memo to present my summary of the development of issues to date, and to attempt to bring the issues into an open discussion inside of EPA. If no changes occur, I can see a number of not particularly pleasant scenarios developing in the not-so-distant future. (**NOTE**– I must highlight that since the first draft of this memo on 14 December 2001, there has been a project presentation to EPA and NOAA, and many of the issues in this memo have been presented and discussed with that group. However, I still feel that this memo, which raised many of these issues should remain in the records.)

### **Several Potential Scenarios**

It has not been easy to have a comprehensive EPA, or EPA and other federal agencies', discussion about the site remediation without the somewhat artificial constraints imposed by the selected, controlled participants, fixed schedules, perceived or real costs, and self-imposed environmental limits on cleanup standards. However, it would be best to have EPA have this type of internal debate before much more time is wasted, or before any new commitments become fixed in the necessary legal and contractual processes. While new reviews may be disturbing to many if these change the path that has been proposed to date, it would be best to have the EPA itself reconsider the options of its own accord to assure that EPA has made the best decisions possible with all the necessary inputs and with a sound science basis.

The next option is for the present path to continue, and then to have another Agency or a Tribe challenge the decisions, which would create delays, difficult policy issues and mistrust. It has been unclear how much information has been presented to the Tribes and other natural resource agencies, and therefore it is hard to determine whether they have accepted the proposed remedial plans based on a full understanding of the issues or only on a superficial explanation of what is present at the site. If these entities are not fully informed it may turn out that later on they will challenge the decisions and much time and money may have been wasted in designs for the wrong remedial action. Similarly with the "public".

An even more problematic scenario is to continue on the present path and have the wall and sediment cap built as planned. If none of the above entities challenge the proposed remedial actions until after these are carried out, and then the contamination gaps and issues come into the public scrutiny (especially having the site located within the Portland Harbor Superfund Site), that would make the EPA appear incapable of developing protective remedial actions, by leaving major contamination sources in place outside the containment wall, or by placing a sediment cap that may get re-contaminated.

My final, and worst, concern is that the present design decisions will be locked in place and carried out, and that the example of a "selectively and limited containment" remedial action will be used as a precedent by the many other entities who are involved in the Portland Harbor Superfund Site, which overlaps this smaller Superfund Site.

### **Proposed Solution**

It appears to be in the best interest of the environment and of EPA to minimize the potential losses at this time and to have EPA, or EPA and the other Federal Agencies, regroup in private and reconsider the original decisions made in the ROD (the ACL, other risk numbers, etc.) and the path that such a document has forced the ODEQ and EPA to follow. If necessary it may be best to have the ROD revised to make it more realistic and to meet the ecological risk needs of the present time and of the larger Portland Harbor Superfund Site. It is preferable to have the EPA have some internal discussions and some delays (note that delays have occurred many times at the site and have not made the problem significantly worse so far) than to continue on the present schedule and then determine that the process or the "final remedy" is not acceptable as the best solution to all the key parties.